Methods Two trained readers independently reviewed 100 randomly selected CT thorax scans from individual patients (mean age 63 years [SD 15]) and noted the number, size and characteristics of any nodules present. Economic analysis was based on costs of CT scan (low dose CT = £115) and the number of additional follow-up CT scans required.

Recommendations for Follow-up and Management of Nodules Smaller than 8 mm Detected Incidentally at Nonscreening CT

Nodule Size (mm)*	Low-Risk Patient†	High-Risk Patient‡
≤4	No follow-up needed§	Follow-up CT at 12 mo; if unchanged, no further follow-up‖
>4–6	Follow-up CT at 12 mo; if unchanged, no further follow-up‖	Initial follow-up CT at 6–12 mo then at 18–24 mo if no change‖
>6–8	Initial follow-up CT at 6–12 mo then at 18–24 mo if no change	Initial follow-up CT at 3–6 mo then at 9–12 and 24 mo if no change
>8	Follow-up CT at around 3, 9, and 24 mo, dynamic contrast-enhanced CT, PET, and/or biopsy	Same as for low-risk patient

Note.—Newly detected indeterminate nodule in persons 35 years of age or older.
* Average of length and width.
† Minimal or absent history of smoking and of other known risk factors.
‡ History of smoking or of other known risk factors.
§ The risk of malignancy in this category (<1%) is substantially less than that in a baseline CT scan of an asymptomatic smoker.
‖ Nonsolid (ground-glass) or partly solid nodules may require longer follow-up to exclude indolent adenocarcinoma.

Abstract P52 Figure 1.

Results Overall, 249 nodules were detected in 86 patients; 9 with a solitary calcified nodule were excluded. Of the remainder, 22 (28%) had nodule (s) < 4 mm, 28 (36%) 4–6 mm, 13 (17%) 6–8 mm and 21 (27%) >8mm. Assuming that all patients were high risk, based on Fleischner guidelines the total number of CT scans required over 2 years would be 15 (<4 mm), 56 (4–6 mm) and 39 (6–8 mm) at a cost of £1725, £6440 and £4485 respectively.
Discussion Over three quarters of our patients in this random sample had significant incidental pulmonary nodules, and their surveillance according to current guidelines would result in a significant burden to the healthcare system, not only in terms of cost but also through increased clinician time and patient anxiety. New protocols for the follow up of these low-risk patients are required if the healthcare economy is to cope with this increasing surveillance burden.

P53 THE UTILITY OF PET-CT IN DETECTING NON-NODAL EXTRATHORACIC METASTASES IN LUNG CANCER COMPARED TO THE STAGING CT

JSZ Lee, KM Bradley, FV Gleeson; *Oxford University Hospitals NHS Trust, Oxford, United Kingdom*

10.1136/thoraxjnl-2013-204457.203

Background NICE Lung Cancer Guidelines 2011 recommend performing a PET-CT in patients being considered for radical treatment after a staging CT of the neck, chest and liver has been performed. If mediastinal lymphadenopathy is detected by CT and the aetiology is determined by intervention, the true value of PET-CT is in the detection of non-nodal extrathoracic metastases. The yield of PET-CT in detecting non-nodal extrathoracic metastases has not previously been reported in comparison to that of reviewing the prior staging CT.
Methods 235 consecutive lung cancer patients with no known extrathoracic metastases referred for a staging PET-CT scan prior to radical therapy were included. All patients underwent a contrast-enhanced CT of the neck, chest and liver and a whole body PET-CT.
Results The median age at diagnosis was 72 years, 141 men (60%). Patients had stage Ia (16%), Ib (19%), IIa (6%), IIb (7%), IIIa (25%), IIIb (6%) and IV (20%) disease. The median interval between the CT and PET-CT scans was 25 days (IQR, 18–29). 21 (9%) patients had 25 extrathoracic and extra-cerebral metastases. 9 metastases were identified on the CT component of the PET-CT and review of the prior staging CT. 16 metastases were not visible on the staging CT scan; 4 (humeral and pelvic) bone metastases were outside the staging CT field of view, 6 metastases had developed since referral (median scan interval 28 days; IQR, 19–39), and 6 were only identified on PET-CT.
Conclusion The addition of pelvic CT in patients referred for PET-CT staging prior to radical therapy may allow for increased detection of extrathoracic metastases. PET-CT detects extrathoracic metastases which were missed or invisible on the staging CT. Lung cancer patients should be offered a contrast-enhanced CT of the neck, chest, abdomen and pelvis at staging. Potentially, an interval CT scan should be performed if a delay of greater than 30 days has occurred prior to the PET-CT scan being performed.

P54 IS F-18 FDG PET/CT ACCURATE IN DETECTING NODAL DISEASE IN PATIENTS WITH SUSPECTED LUNG CANCER?

[1]M Haris, [2]S Leyakathali khan, [1]S Diver, [2]J Hill, [1]M Munavvar, [1]H Ansari; *[1]University Hospital of North Staffordshire NHS Trust, Stoke- on- Trent, England; [2]Lancashire Teaching Hospitals NHS Fountation Trust, Preston, England*

10.1136/thoraxjnl-2013-204457.204

Background Accurate assessment of mediastinal lymph nodes is crucial in determining the management strategies in patients with lung cancer, particularly in those suitable for radical treatment. Positron emission tomography/computed tomography (PET-CT) is currently the best available imaging tool to assess nodal involvement and current guidelines recommend further sampling of PET positive lymph nodes to confirm the diagnosis using image-guided or surgical techniques to achieve the best treatment outcomes. We proceeded to look at the accuracy of (18) F-FDG PET/CT in detecting nodal metastasis in lung cancer.
Methods Retrospective study of 68 pathologically confirmed metastatic lymph nodes obtained using endobronchial ultrasound (EBUS) guided needle aspiration between Jan 2009 and Jan 2012. All pre-procedure PET/CT images were reviewed by a Consultant Radiologist who was blinded to the EBUS findings and the pathology results. PET standardised uptake value (SUVmax) of the primary lung lesion and suspected lymph nodes was measured. Data was collected from our EBUS database and analysed.
Results Of the 68 lymph nodes, 24 were subcarinal, 14 right lower paratracheal, 6 left lower paratracheal, 2 upper right paratracheal, 1 right inter-lobar, 10 right hilar and 11 were left hilar. EBUS lymph node size (mm) 18 mean, SD 6 (range 7–34). Mean PET SUVmax of the lymph nodes was 9.1, 6.7 SD (2–34); mean PET SUVmax of the primary tumour (n = 50) was 10.6(7.6 SD). 23 nodes were squamous, 17 nodes adenocarcinoma, 9 small cell, 13 non-small cell (not otherwise specified), 5 extrathoracic, and 1 neuroendocrine. 52 nodes were positive on PET, 9 were negative and 7 indeterminate.
Conclusion Our results show that out of the 68 pathologically confirmed lymph nodes 52 were positive on PET/CT with diagnostic accuracy of 76%. SUVmax may be used as a guide to characterise the nodes but not as a confirmatory tool. Despite limitations PET/CT is accurate and it is complemented by image-guided sampling in the lung cancer diagnostic pathway.